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COSTS OF RETAILING MEATS IN RELATION TO VOLUME

by

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Marketing Research Report No. 24

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Agricultural Economics
Washington, D. C.
August 1952

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SUMMARY

The cost of retailing meat differs only slightly as between cities of similar size but varies considerably among stores within each city.

Much of the variation in the costs of retailing a pound of meat is apparently due to the differences in volumes handled.

Meat departments handling less than 1,000 pounds of meat a month (wholesale weights) had operating costs of 20 to 25 cents a pound. Those handling more than 4,000 pounds had an operating cost of about 8 or 9 cents a pound. Family help was included at the prevailing wages for comparable hired help.

Actual returns for employed family labor were often less than prevailing wage rates, indicating that many small-volume retailers were willing to view family labor at a lower cost than hired labor. Most meat departments handling less than 4,000 pounds of meat per month were family-operated.

Efficiency of meat retailing will be improved as prospective new owners and operators consider the relationship between costs and quantities of meat handled in making plans to buy or to establish new stores.

Efficiency will also be improved as more of the present operators use operating costs as a working tool of management rather than maintaining cost records merely for tax or historical purposes. As the combination grocery and meat market is the chief type of retail meat outlet, decisions based on the costs of retailing meat must be considered in terms of their effects on returns for the entire store.

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by

EDMUND FARSTAD and V. JOHN BRENSIKE, *Agricultural Economists*

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Information relating to margins or costs of retailing meats is basic to considerations of the problem of increasing the efficiency of retail distribution of meat. Available information regarding the problem of reducing the costs of distribution of meats, however, is meager. In order to obtain some of the basic information needed, research studies dealing with retail meat operations were conducted during 1950 in Harrisburg, Pa., Bridgeport, Conn., and Topeka, Kans. This report relates to one phase of these studies; that is, the costs of retailing meats.

Reducing the costs of distributing meat is an important problem. Prices paid by consumers for retail meat items as well as prices received by farmers for livestock are influenced by costs of distribution. Historically, about half of the total margin for marketing and processing livestock, meats, and meat products has been taken at the retail level (table 1). In 1947, about 16.2 cents of the consumer's meat dollar was paid for retail distribution. This is equivalent to about 9 cents per retail pound of meat sold. It compares with a total marketing margin for livestock and meats from farm to consumer of 36.1 cents of the consumer's meat dollar. The total marketing margin was equivalent to about 20 cents per retail pound of meat sold.

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[1] The study upon which this report is based was conducted under authority of the Agricultural Marketing Act of 1946 (RMA, Title II). The data for Topeka, Kans., were obtained from a study conducted in cooperation with the Kansas Agricultural Experiment Station. A joint report entitled "Retail Meat Distribution in Topeka, Kansas" is to be published by the Kansas Agricultural Experiment Station.

TABLE 1.—*Distribution of the consumer's meat dollar, and as a percentage of the total marketing margin for meat, by marketing functions, 1932, 1939, and 1947*[1]

Function	Consumer's meat dollar			Percentage of total marketing margins		
	1932	1939	1947	1932	1939	1947
Marketing margin:	*Cents*	*Cents*	*Cents*	*Percent*	*Percent*	*Percent*
Retailing	33	27.7	16.2	50.0	49.0	44.9
Wholesaling	8	6.2	4.2	12.1	11.8	11.6
Meat packing	20	15.9	13.4	30.3	30.3	37.1
Marketing livestock	5	4.7	2.3	7.6	8.9	6.4
Total margins	66	52.5	36.1	100.0	100.0	100.0
Returns to producers	34	47.5	63.9			
Total	100	100.0	100.0			

[1] PARR, KATHRYN. FARM-TO-RETAIL MARGINS FOR LIVESTOCK AND MEAT. Bur. Agr. Econ., June 1949, pp. 3–4.

The magnitudes of margins or costs are not in themselves reliable indicators of the relative efficiency of retailing operations, but they are useful in that they indicate the importance of reducing costs. The relative efficiency of retailing operations from a social point of view cannot be measured with any degree of accuracy. However, an indication as to how well the resources employed in retailing are utilized is provided in detailed analyses of the costs of operations in relation to services performed in retailing. Information made available concerning costs of operation, classified according to function and cost items, can help to bring about more efficient operation by individual retailers.

For retailers, information regarding costs of retailing is basic to their managerial decisions. Adequate information as to cost is a working tool of management. Decisions regarding possible changes in scale of operations, in services rendered, and in merchandising practices employed depend as much upon possible changes in operating costs as they do upon prospective changes in sales volume and revenue. Yet, few retail operators maintain the records necessary to appraise such possible changes. Cost records are generally maintained only for tax and historical purposes. Usually they are not maintained by departments (such as for meats, produce, or dry goods) but only for the entire retail operation.

Consumers tend to demand more services in retail distribution of meats without being aware of the costs of the services they already receive. Knowing the costs of the services offered would help consumers to select services they desire and for which they are willing to pay the added cost.

OBJECTIVES AND METHODS

The purposes of the study upon which this report is based were (1) to measure the costs of retailing meats in selected cities during

1950; (2) to ascertain the degree of variability in retailing costs among individual stores selected for study, as well as the variability in costs of retailing among cities; and (3) to ascertain the factors that affect operating costs and those that cause variations in costs of retailing.

SOURCE OF DATA

Population, geographic location, and social and other economic conditions were considered in the selection of cities in which meat-retailing operations were studied.

Included in this report are some of the results obtained from a study of retailing operations conducted in Chicago, Ill., during 1950. Although the results obtained from the Chicago study are not directly comparable to those from the Bridgeport, Harrisburg, and Topeka studies, they can be used to provide a contrast and to supplement the results obtained from the three cities that form the basis for this report.

Retail stores in each of the three cities were selected for study by random sampling from trade-route listings. Member stores of nationally operated chain organizations were excluded.

Retail meat stores were defined as outlets selling fresh beef, veal, pork, or lamb to consumers. By definition, a large number of retail food stores which retailed canned or otherwise processed meats but not fresh meat were excluded. From the standpoint of numbers in operation, these stores are important but from the standpoint of retail meat sales, they are relatively unimportant.

In each of the three cities, geographic location and type of retail stores were considered in selecting the stores for study. Before the study was made, volumes of meat retailed were not known. Therefore in selecting sample stores, volume of business could not be considered as a factor. Alternative sample stores were also selected by random sampling; these were used as replacements for nonrespondents.

Data relating to cost were obtained from individual operators of each of the stores selected for study. Data were obtained by personal interview and a prepared questionnaire schedule. As data were collected by personal interview, it was not possible to obtain comparable time periods of study among the cities. The survey was conducted in Topeka during May and June, in Bridgeport during July, and in Harrisburg during August. The questionnaire schedule used was pretested in retail meat stores in Raleigh, N. C.

Whenever possible, data as to costs were obtained from accounting records. Cooperation of retailers in each city was excellent. In many instances, retailers were unable to furnish adequate information as to costs and such partial results could not be used. However, as retail costs are only one phase of the total information sought, alternate stores were not used if retailers furnished any of the information requested, even though one particular phase may not have been complete. For this reason, the results of this study should not be considered entirely representative of this type of retail operation in any of the cities studied.

METHODS OF ESTIMATING COSTS[2]

Most of the stores included in this study were combination grocery and meat markets. Available accounting records for these stores usually covered only the combined store operations. Therefore, in order to obtain costs of retailing for meat departments, it was necessary to allocate total costs of operations to those departments. The basis used in allocating costs in this study is quite similar to the method generally used in the retail meat industry. As total costs were allocated by the same procedure in all stores studied, costs of retailing meats in this regard are comparable among stores.

Costs of retailing meat as used in this report include payments for rent, or rental value of the meat department if the building was owned by the operator. Rent or rental value was allocated to meat departments on the basis of floor space utilized in retailing meats.

Wages and salaries represent the largest proportion of the total costs of retailing meat. As used in this report, costs of labor include all direct payments of wages and salaries, and allowances for salaries of owner-operators and family labor. The number of employees engaged in retailing meats, hours worked in meat department, wage rates or salaries, and total labor costs were obtained for all hired employees. Payments of salaries to owner-operators were allowed on the basis of the number of hours spent in retailing meats at a wage rate approximating the wage usually paid to head meat cutters in each city. Allowances were made for unpaid family labor on the basis of number of hours worked and type of work performed, based on the rate of pay prevailing for comparable labor in the particular area.

Also included in the costs of retailing were allowances for depreciation of equipment and fixtures, expenses for wrapping supplies, heat, light, power, delivery, and other miscellaneous items. In the case of costs such as repairs and maintenance, which occur irregularly, an attempt was made to obtain usual costs based on previous experience of individual retailers.

Interest on investment in plant facilities was not considered a cost but rental value and depreciation allowances were included. Likewise, interest on inventories was not considered a cost as such because the usual turn-over of stocks of meat is rapid. Individual retailers can usually sell the bulk of their wholesale meats purchased prior to payment for the purchases. In some instances, retailers bought their supplies at wholesale from packers who extended more liberal credit than is generally approved in the trade. Under these circumstances, retailers usually paid slightly higher prices for meats.

RETAIL COST OF OPERATION

Average costs of retailing meats in 1950 were about 9.1 cents per pound (wholesale weight) for the 25 stores studied in Bridgeport, Conn. (table 2). This compares with 10.1 cents per pound for stores studied in Harrisburg, Pa., and 10.1 cents per pound for stores studied in Topeka, Kans. Average costs in each city were obtained by dividing the total retailing costs for all stores studied in each city by the total wholesale pounds of meats handled by all stores combined in each city. The results represent the average cost per pound of retailing meats; they do not represent the average cost per store studied in each city.

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[2] Some additional cost items in retailing meats are not regarded as costs of operation. Losses resulting from excessive spoilage, dehydration, salvage selling of cuts, and other factors are economic costs which are reflected as relatively low gross retailing margins. Such economic costs are not considered in this report.

Operating costs are expressed in cents per wholesale pound of meat handled. This was done because data relating to retail poundage were not available. On the basis of a United States average, about 85 percent of the total weight of wholesale purchases is sold as retail cuts of meat. The remaining 15 percent represents waste and bones, cutting loss, and dehydration. However, the average yield of retail cuts obtained varies among individual stores, depending upon the relative importance of the various kinds and quality of meats handled and the methods employed in cutting and trimming operations.

TABLE 2.—*Total cost for retailing a pound of meat, wholesale weight, by items and selected cities, 1950*

Item	Bridgeport, Conn. 25 stores		Harrisburg, Pa. 15 stores		Topeka, Kans. 45 stores	
	Cost	Percentage of total	Cost	Percentage of total	Cost	Percentage of total
	Cents	*Percent*	*Cents*	*Percent*	*Cents*	*Percent*
Total cost	9.1	100.0	10.1	100.0	10.1	100
Wages and salaries	5.8	63.7	6.6	65.4	7.0	69
Rent	1.3	14.3	.5	5.0	.6	6
Other						
Electricity, heat, water and ice	.3	3.3	.6	5.9	.5	5
License and insurance	.2	2.2	.4	3.9	.1	1
Depreciation	.1	1.1	.4	3.9	.4	4
Wrapping supplies	.5	5.5	.4	4.0	.3	3
Maintenance	.1	1.1	.3	3.0	.2	2
Advertising	.3	3.3	.1	1.0	.3	3
Miscellaneous	.5	5.5	.8	7.9	.7	7
Total other	2.0	22.0	3.0	29.6	2.5	25

The main item of cost in retailing meat is the cost of labor. Payments for wages and salaries, including costs of family labor, were equivalent to about 65 to 70 percent of the total operating costs. The reason for the high proportion of total operating costs resulting from salaries and wages lies in the nature of retailing operations. Retailing meat is a combined processing and selling operation. Large wholesale cuts of meat are converted into many different smaller cuts suitable for the retail trade. Considerable skill is required in boning, cutting, trimming, and displaying meats. Likewise, considerable ability is required in merchandising a highly perishable product so that spoilage and dehydration are kept to a minimum.

Rent was the next highest single-cost item, although it was less important than payments for wages and salaries. Rent ranged from about 5 percent of the total operating costs in Harrisburg to about 14 percent in Bridgeport. The relatively higher rental rate in Bridgeport can be attributed partially to differences in location of stores within given cities. In Bridgeport, a higher proportion of the stores studied apparently are located in the relatively high-rent areas in the heart of the retail district.

The remaining items of expense included payments for light, heat and power; license and insurance; depreciation of equipment, including delivery trucks; containers and wrapping supplies; maintenance; advertising; and miscellaneous items of expense. The total of these expenses was equivalent to about 22 percent of the total operating costs in Bridgeport, 25 percent in Topeka, and about 30 percent in Harrisburg.

VARIATIONS AMONG CITIES

Differences in total average operating costs for retailing meats for the stores studied were not great among the three cities (table 2). This is to be expected as the stores studied in each city handled about the same quantities of meat, offered similar services in retailing, and operated under approximately the same cost rates for factors employed.

In contrast, costs of retailing meats for the stores studied in Chicago were higher than for stores handling volumes of more than 4,000 pounds per month in the three cities (table 3). The quantities of meats handled by the stores studied in Chicago ranged from 5,000 to 55,000 pounds (wholesale) per month during 1950.

TABLE 3.—*Cost for retailing a pound of meat, wholesale weight, at Chicago and average of larger volume stores for the three cities, 1950*[1]

Item	Chicago	Average for three cities
	Cents	*Cents*
Costs:		
Salaries and wages	7.6	6.0
Rent	.8	.6
Other	2.4	2.3
Total	10.8	8.9

[1] Stores in all cities had volumes of more than 4,000 pounds a month.

The difference in operating costs between Chicago and the average of the three cities may be primarily attributed to the difference in salaries and wages paid. In general, wage rates in the Chicago area were considerably higher than the wage rates that prevailed in each of the other cities studied. For example, the usual wage paid a head meat cutter in the stores studied in Chicago during 1950 was about $2.00 an hour. This compares with the rates of $1.00 to $1.25 that prevailed in the other cities studied.

Differences in wages and salary payments between Chicago stores and stores studied in the other cities were less than the difference in the average wage rates for all labor used. There are two probable reasons for this: (1) difference in types of labor employed, and (2) difference in labor productivity. The Chicago stores tended toward a greater degree of division of labor in retailing meats than was the case in other cities. Because the actual wage differentials between head meat cutters and other meat cutters, and apprentices, clerks, and wrappers were greater in the Chicago stores, more use was made of the lower wage skills. Faced with possible alternatives in employing different skills in retailing operations, retail operators tend to use less of the higher-priced factors.

Apparently, the productivity of labor employed in the Chicago stores was somewhat higher than that in stores of comparable volume in the other three cities. Considering total man-hours employed, the stores in Chicago handled about 26 pounds per man-hour. This compares with about 20 pounds per man-hour for comparable stores in Bridgeport and Harrisburg, and about 22 pounds per man-hour in Topeka.

VARIATIONS AMONG STORES

Variations in operating cost among stores within each of the cities studied were greater than the variations previously noted among cities (table 4). The average retailing cost per store was 13.4 cents a pound (wholesale) for the stores studied in Bridgeport, 12.3 cents a pound per store in Harrisburg, and 14.7 cents a pound per store in Topeka.

TABLE 4.—*Average cost per store for retailing a pound of meat, wholesale weight, by items, selected cities, 1950*

Item	Unit	Bridgeport 25 stores	Harrisburg 15 stores	Topeka 45 stores
Total costs:				
Mean	Cents	13.4	12.3	14.7
Median	do	12.6	11.7	13.0
Standard deviation	do	5.9	4.8	7.0
Coefficient of variation	Percent	44.0	39.0	48.0
Wages and salaries:				
Mean	Cents	9.6	8.2	11.0
Standard deviation	do	4.7	3.5	5.9
Coefficient of variation	Percent	49.0	43.0	54.0
Rent:				
Mean	Cents	.9	.8	.8
Standard deviation	do	.7	.6	.4
Coefficient of variation	Percent	78.0	80.0	50.0
Other:				
Mean	Cents	2.9	3.3	2.9
Standard deviation	do	1.3	1.5	1.6
Coefficient of variation	Percent	45.0	45.0	55.0

An indication of the extent of variation is provided by the use of standard deviation. The mean plus and minus one standard deviation determines the limits within which about two-thirds of the observation would be expected. For example, the average total cost in Bridgeport was 13.4 cents. The standard deviation was 5.9 cents. Hence, about two-thirds of the total number of stores had operating costs that ranged from 7.5 cents a pound to 19.3 cents a pound. The remaining third of the stores had operating costs above or below these limits. In order to compare the variability among the cities, coefficients of variations were computed by expressing the standard deviations as a percentage of average costs. The extent of variations of operating costs among individual stores within each city was 44 percent for the stores studied in Bridgeport. This compares with 39 percent in Harrisburg, and about 47.6 percent in Topeka.

The extent of variation was even greater in the case of specific retail cost items among individual stores in each of the three cities than the degree of variability in total costs. For example, the rent or rental value per pound of meat sold for two-thirds of the stores studied in Bridgeport would be included between rental costs of 0.2 and 1.6 cents per wholesale pound handled. In this case, the coefficient of variation was 78 percent. This compares with 80 percent for the rent of the stores studied in Harrisburg, and 50 percent for those in Topeka. Likewise, similar variations were noted for wages and salaries, and all other costs.

FACTORS INFLUENCING VARIATIONS IN OPERATING COSTS

In this report, two aspects of the problem of explaining variations in operating costs among individual stores were considered. The first is to explain the factors that give rise to variations in retailing costs among individual stores within the cities studied, and the second is to describe some of the conditions which permit such wide variations to exist within the present highly competitive retail industry.

DIFFICULTIES ENCOUNTERED

Variations in operating costs among individual stores are difficult to explain. It is difficult to isolate and accurately measure the net effects of several possible factors on the magnitude of operating cost. Operating costs are expressed on a cents per pound basis in order to permit comparisons. The problem of explaining variations in costs becomes in the first instance a problem of explaining variations in quantities of meats handled, and in the second one of relating operating costs to the quantities handled. Obviously, quantities of meat handled and costs of retailing are closely interrelated. Quantities of meat handled depend upon the costs incurred in retailing, such as advertisement, displays, location, and parking facilities. The cost of retailing a pound of meat depends upon the total outlay of expense incurred. This interrelationship between total costs and volumes handled contains the essence of the meat-retailing problem; that is, to obtain the highest possible volume of meats with the lowest possible retailing cost.

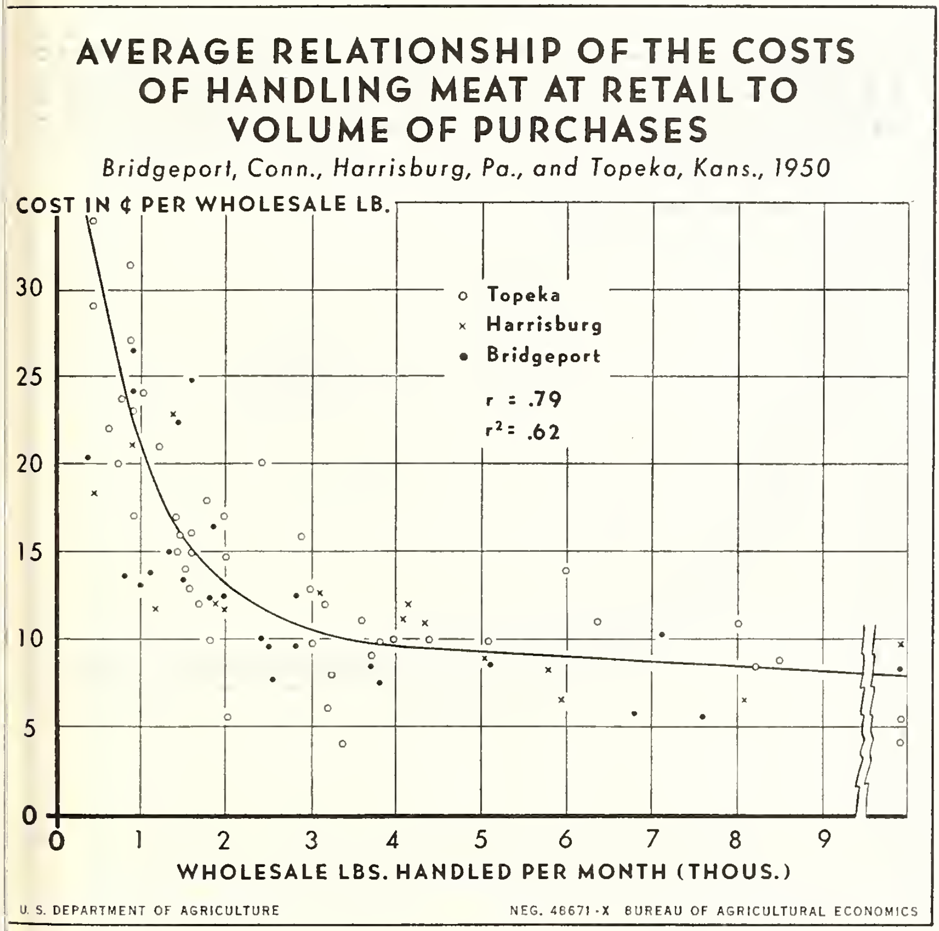
A second difficulty arises in trying to evaluate factors that are intangible and cannot be measured objectively. Like retailers who have the problem of evaluating intangibles in extending credit to customers, analysts are faced with the problem of evaluating good will created by personal relationships between retailers and customers. And like retailers, analysts face the difficult task of putting intangible factors into their tabulating machines.

In this study, several possible factors were considered for their possible influence on variations in costs among individual firms. The data collected do not permit accurate measurement of the effects of the several factors on costs. Some general tendencies only can be stated.

OPERATING COSTS IN RELATION TO VOLUMES HANDLED

Many of the variations noted in operating costs among individual stores were associated with variations in volumes of meat handled. In general, of all the stores studied in each city, those

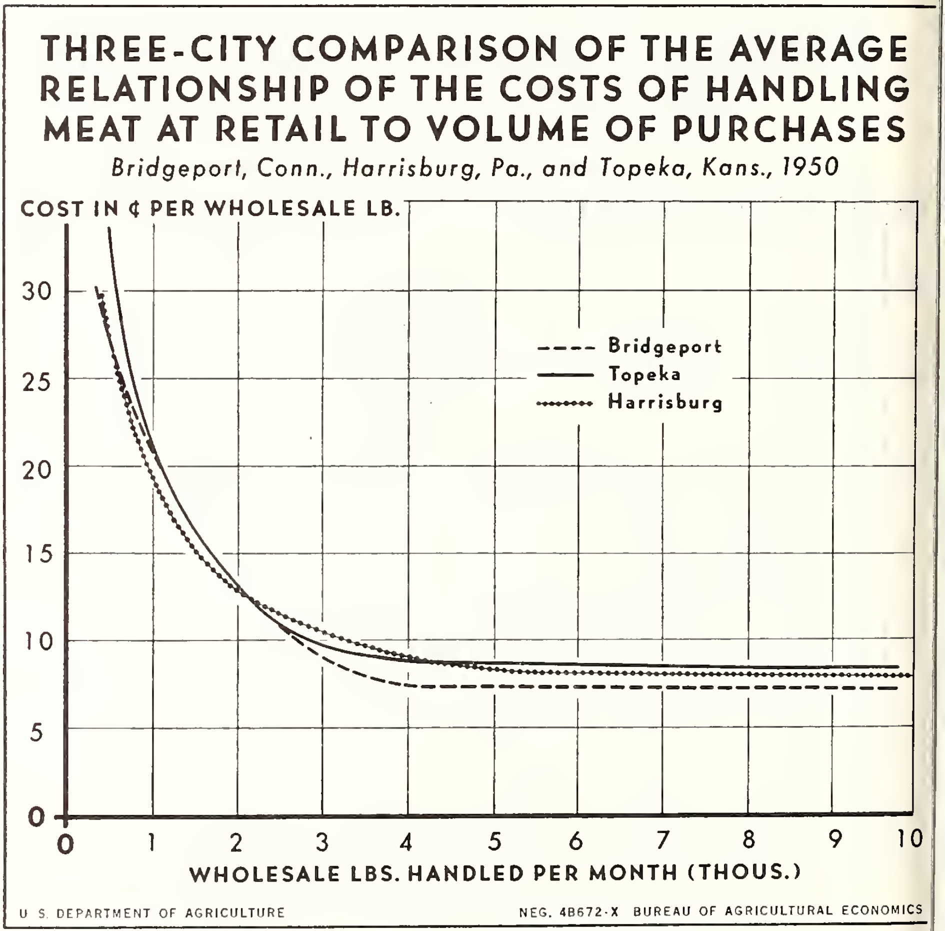
FIGURE 1.



with the lowest volumes had the highest operating costs per pound (fig. 1). Operating costs per pound decrease sharply as volume increases until about a 4,000-pound (wholesale) volume per month is reached. After this point is reached, the tendency for further decreases in cost apparently diminishes considerably as volumes increase, although the number of observations beyond this 4,000-pound level was not sufficient to indicate conclusively the precise relationship. Nevertheless, any reduction in cost which may be associated with increased volume above 4,000 pounds appears to be relatively slight.

It is apparent that internal economies are important in meat-retailing operations. For example, in the case of stores studied in Bridgeport, operating costs were 21.2 cents a pound for stores handling less than 1,000 pounds of meat a month (table 5). This compares with 13.2 cents per pound operating costs for stores handling between 1,000 and 4,000 pounds, and a total average retailing cost of 7.8 cents a pound for stores handling 4,000 pounds and over.

FIGURE 2.



THREE-CITY COMPARISON OF THE AVERAGE RELATIONSHIP OF THE COSTS OF HANDLING MEAT AT RETAIL TO VOLUME OF PURCHASES

Bridgeport, Conn., Harrisburg, Pa., and Topeka, Kans., 1950

U. S. DEPARTMENT OF AGRICULTURE NEG. 48672-X BUREAU OF AGRICULTURAL ECONOMICS

TABLE 5.—*Average cost per store for retailing a pound of meat, wholesale weight, by items and volume of meat handled per month, specified cities, 1950*

Item	Unit	Meat handled per month at—								
		Bridgeport			Harrisburg			Topeka		
		Less than 1,000	1,000–3,999	4,000 and over	Less than 1,000	1,000–3,999	4,000 and over	Less than 1,000	1,000–3,999	4,000 and over
Stores	Number	4	16	5	2	5	8	9	27	9
Volume per store	Pound	740	2,150	7,000	650	1,850	6,830	700	2,350	12,355
Cost:										
Wages and salaries	Cents	15.4	9.5	5.1	15.3	8.2	6.0	19.2	9.7	6.4
Rent	do	1.7	.7	.8	1.7	1.2	.4	1.4	.8	.5
Other	do	4.1	3.0	1.9	2.9	3.7	2.8	4.6	2.6	2.3
Total cost	do	21.2	13.2	7.8	19.9	13.1	9.2	25.2	13.1	9.2

As the cost rates for the stores studied in the three cities were approximately the same, the average relationship between average costs and volumes of meats handled for all stores was fitted by the free-hand method. A coefficient of correlation equal to .79 was obtained. Consequently, more than 60 percent of the total variation in the costs of handling a pound of meat observed among individual stores can be explained in terms of volumes handled. Graphically, in each individual city the relationship was about the same (fig. 2).[3]

Data as to volume of meats handled and costs of retailing were also obtained for 15 stores in Chicago, Ill. These stores differed from those described for the three cities in that they (1) were predominantly the straight meat-market type of store rather than combination grocery and meat markets, and (2) were all relatively larger-volume stores, handling between 5,000 and 55,000 pounds of meat a month. The relationship between retailing costs per pound of meat handled and quantities of meat handled for these stores tends to substantiate the findings obtained in the other three cities.[4] That is, for meat departments handling more than 4,000 pounds of meat a month, costs of retailing declined with increasing volumes of meats handled, but the amount of decline was relatively slight.

INTERNAL ECONOMIES

The relationship between operating costs per pound of meat handled and volumes of meat handled indicates the possible increasing returns to scale for low-volume operators. In general, however, all of the stores studied were subject to increasing returns. But because of the nature of the retailing industry, it is unlikely that full utilization of resources can be achieved.

The function of retailing is to provide goods and services to consumers for final consumption at the time and place desired. In the case of meats, consumers make a high proportion of their purchases on Fridays and Saturdays (table 6). Retail sales of meat are more evenly distributed during the week in relatively low-volume stores than in higher-volume stores. For large markets, it is not uncommon to find 70 percent of total weekly sales of meat retailed on Fridays and Saturdays. This unequal distribution of retail sales during the week creates a problem in utilization of the cost factors employed in retailing. In the case of labor, emphasis in operations is placed upon receiving and processing wholesale cuts of meat during the first 4 days of the week and evenings, and selling is emphasized during the last 2 days. Part-time labor is often used in the meat department, and in combination grocery and meat stores some degree of flexibility

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[3] Coefficient of correlation for Topeka was r = .86; Bridgeport r = .60; Harrisburg r = .64. The reason for the relatively low correlation in Harrisburg and Bridgeport lies in the fact that a larger volume of stores in these cities tended to cluster at or near the volume representing the average, reducing the variability of the sample and thus the correlation coefficient in these cities.

[4] The relationship of costs to volume in these larger-volume Chicago stores yields a coefficient of correlation of .30, based on a linear regression computed by the least-squares method.

TABLE 6.—*Number of stores handling specified quantities of meat per month by proportion of weekly meat sales made on Friday and Saturday, specified cities, 1950*

Proportion of total weekly sales made on Friday and Saturday	Stores handling			Total	
	Less than 1,000 pounds	1,000 to 4,000 pounds	Over 4,000 pounds	Actual	Percentage of total stores
	Number	*Number*	*Number*	*Number*	*Percent*
Less than 30 percent	4			4	5.2
30–39	1	10	2	13	16.9
40–49	5	12	5	22	28.5
50–59	1	13	6	20	26.0
60–69	2	6	3	11	14.3
70 and over	1	5	1	7	9.1
Total	14	46	17	77	100.0

is attained by shifting labor among departments. Similar shifts of plant and equipment are not possible in all cases.

All retail meat departments in general are subject to increasing returns for an additional reason. This stems from the conditions of imperfect competition which exist in the retail meat industry. Some of these conditions are (1) retailing meats involves personal relationships between retailers and consumers, (2) retail cuts of meat are not standardized products but vary according to differences in quality of meat as well as in differences in cutting and trimming methods employed, (3) differences in the trade terminology used to identify retail cuts of meat, and (4) the influence of location.

These conditions permit higher returns from retail sales than would be the case under more perfect conditions of retailing. This is not to imply that retailers receive high net returns from retailing. Rather it permits more stores to operate, although at outputs somewhat less than the potential capacity of their operations. Consequently, although it is possible for retailers to obtain higher gross returns because of imperfect competition, retailers also operate at higher levels of cost which reflect less than optimum use of resources.

SMALL DEPARTMENTS AND ECONOMIES OF SCALE

In the previous sections possible internal economies were suggested for the retail stores studied as a result of the significant relationship that exists between operating costs and quantities of meats handled. Stores handling less than 1,000 pounds of meat per month were most subject to increasing returns with a larger scale of operations. Such stores operate at a distinct competitive disadvantage. This is indicated by relatively very high operating costs as compared with stores handling larger quantities of meat. Stores handling 1,000 to 4,000 pounds were also subject to considerable increasing returns to scale, but the potentialities for such increased returns were considerably less than stores which handled less than 1,000 pounds a month. Likewise, stores included in the classification of 1,000 to 4,000 pounds a month operated at a considerable competitive disadvantage as compared with stores handling larger quantities.

Although the actual operating costs as shown for various classifications of stores in the cities studied probably would not apply generally to stores in other cities, nevertheless it is probable that the relationship between operating costs and volumes would tend to prevail. Granting this assumption, it may then be possible to appraise the importance of potential economies in the existing retail meat industry from information made available by the Bureau of the Census.

IMPORTANCE OF STORES HANDLING VARIOUS QUANTITIES

In 1948, the combination grocery and meat-market type of store represented about 75 percent of the total number of all retail outlets of fresh meats (including fish and poultry). It also represented about 75 percent of the total retail sales of meat. Of secondary importance, meat markets accounted for about 20 percent of total retail sales of meat, but represented only about 8 percent of total retail outlets of fresh meats. Of less importance were fish (seafood) markets, egg and poultry dealers, delicatessens, and miscellaneous other stores which accounted for the remainder.

Distribution of combination grocery and meat markets according to retail dollar sales volume of meat indicates the high concentration of total retail sales of meat in a relatively small number of stores (interpolation based on table 7). In 1948, for example, 50 percent of all stores, representing stores handling the smaller quantities (including member stores of chain organizations), handled only 11 percent of the total retail sales of meat. Conversely, in 1948 about 5 percent of the largest stores handled about 40 percent of the total retail sales of meat.

The information presented in table 7 indicates that during 1948 about 35 percent of the total number of combination grocery and meat markets in the United States handled 1,000 pounds of meat or less per month. These accounted for only about 5 percent of the total retail sales of meat. About 45 percent of the total number of combination grocery and meat markets handled volumes of meats between the range of 1,000 and 4,000 pounds per month. These stores accounted for about 30 percent of total retail sales of meat in 1948. Less than 20 percent of the stores handled the remaining 65 percent of the sales. Therefore, from the standpoint of the number of stores handling less than 4,000 pounds of meat per month, potential economies of scale affect about 80 percent of all stores in operation. When retail sales of meat are considered, such economies become less important as this 80 percent of the stores handled about 35 percent of the retail sales of meat.

INFLUENCE OF VARIOUS COST ITEMS ON RETURNS TO SCALE

The major reason (exclusive of labor) for the large returns to scale in stores handling less than 4,000 pounds a month is that the minimum amount of plant equipment required for handling any small quantities of meat generally affords handling up to 4,000

TABLE 7.—*Distribution of all grocery stores with fresh meats by value of retail sales, and estimates of retail meat sales, United States, 1948*

Group [1]	Stores		Sales		Cumulative percentage		Sales per store		
								Meat	
	Actual [1]	Percentage of total	Value [1]	Percentage of total	Number of stores	Sales value	Value	Value [2]	Quantity [3]
Dollars	*Number*	*Percent*	*1,000. dol.*	*Percent*	*Percent*	*Percent*	*Dollars*	*Dollars*	*Pounds*
Less than 10,000	25,121	11.2	127,791	0.6	11.2	0.6	500	121	218
10,000– 19,999	28,382	12.7	422,810	2.0	23.9	2.6	1,241	362	651
20,000– 29,999	28,144	12.6	694,303	3.3	36.5	5.9	2,056	600	1,079
30,000– 49,999	45,034	20.1	1,757,886	8.5	56.6	14.4	3,253	950	1,709
50,000– 99,999	51,172	22.9	3,584,466	17.3	79.5	31.7	5,834	1,703	3,064
100,000–299,999	32,225	14.4	5,193,638	25.1	93.9	56.8	16,117	3,922	7,055
300,000–499,999	6,147	2.7	2,374.958	11.4	96.6	68.2	32,196	9,401	16,912
500,000–999,999	5,484	2.5	3,766,841	18.2	99.1	86.4	57,240	16,714	30,006
1,000,000 or more	1,953	.9	2,820,595	13.6	100.0	100.0	120,352	35,143	63,217
Total	223,662	100.0	20,743,288	100.0					

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[1] 1948, U. S. Census of Business, Table 2A, Sales, Size, U. S. by Kinds of Business, Bul. No. 2R2, U. S. Bureau of the Census.

[2] Estimated on the basis of 65.4 cents average retail price per pound all meats in 1948, and retail weight equals 85 percent of wholesale weight.

[3] Meat sales estimated as 29.2 percent of combined meat and grocery sales.

pounds a month. In some instances, very low-volume stores eliminate the necessity for equipment by purchasing retail cuts of meat from other retailers, but these stores are of little importance in retailing.

EQUIPMENT

With the exception of walk-in box coolers and power saws, most of the stores studied used about the same kind of equipment (table 8). In lieu of refrigerated storage rooms, some of the retailers used part of their display cases for storage purposes. Although the same types of equipment are generally used by all retailers, large-volume stores use greater quantities of such items. The point of significance here is that the minimum amount of equipment necessary for handling fresh meat is relatively large.

Usually, a power saw is used as a labor-saving device rather than as a substitute for lack of skill in cutting. However, some of the small-volume operators employed power saws, not to obtain speed and uniformity in cutting adaptable to large-volume operations, but as a partial substitute for skilled labor. Some retail operators of stores studied were not adept at cutting meats by hand. They employed power saws for making practically all retail cuts from larger wholesale products.

TABLE 8.—*Percentage of stores studied using various items of equipment, Bridgeport, Conn., Harrisburg, Pa., and Topeka, Kans., 1950*

Equipment item	Total pounds of meat handled per month			
	Less than 1,000	1,000–4,000	More than 4,000	Total
	Percent	*Percent*	*Percent*	*Percent*
Display case	100	100	100	100
Walk-in cooler	38	75	100	75
Grinder	88	100	100	94
Mechanical slicer	94	100	100	95
Power saw	6	28	36	31
Floor scale or beam scale	6	40	50	45

The smallest refrigerated case used for displaying and storing meat was 6 feet long. Operators handling less than 1,000 pounds a month usually had either an 8-foot or 10-foot case. Eight-, ten-, and twelve-foot cases were found in stores handling between 1,000 and 4,000 pounds of meat per month. Stores handling more than 4,000 pounds used combinations of 6-, 8-, 10-, and 12-foot cases in order to obtain the sizes of display area desired.

Retailers who handled less than 4,000 pounds a month utilized their display cases less efficiently than larger-volume stores (table 9). For example, in Bridgeport, stores that handled less than 1,000 pounds a month handled only 87 pounds of meat per linear foot of display case per month. This compares with 215 pounds per foot of display case for operators handling between 1,000 to 4,000 pounds. For all stores handling more than 4,000 pounds of meats per month, an average of more than 500 pounds per foot of display was attained.

TABLE 9.—*Volumes of meat handled per month per linear foot of display case, selected cities, 1950*

Group	Meat handled per linear foot of display case		
	Bridgeport	Harrisburg	Topeka
Pounds	*Pounds*	*Pounds*	*Pounds*
Meat handled per month:			
Less than 1,000	87	80	76
1,000 to 4,000	215	170	201
Over 4,000	518	546	546
Average	383	383	301

LABOR

Considering the total number of hours employed in retailing meats, the amount of meat handled per hour of labor employed increased greatly with increasing quantities of meat handled up to about the 4,000-pound level. The rate of increase in output per man-hour diminishes when comparisons are made among stores that handle more than 4,000 pounds of meat a month. For example, 5.0 pounds of meat were handled per man-hour in stores operating at volumes of less than 1,000 pounds a month in Bridgeport (table 10). This compares with about 12 pounds per man-hour for stores handling between 1,000 and 4,000 pounds, and about 20 pounds per man-hour for stores handling 4,000 pounds and more a month.

In the stores studied in Chicago, the average amount handled per man-hour was about 25 pounds. These stores handled volumes comparable to stores classified as handling more than 4,000 pounds a month. This compares with an average of about 26 pounds per man-hour for self-service meat stores studied in 1949.[5]

TABLE 10.—*Meat handled per hour of labor, selected cities, 1950*

Group	Meat handled per man-hour		
	Bridgeport	Harrisburg	Topeka
Pounds	*Pounds*	*Pounds*	*Pounds*
Meat handled per month:			
Less than 1,000	5.0	7.3	5.0
1,000 to 4,000	11.6	12.9	10.8
Over 4,000	20.3	20.1	23.7

RENT

Rent, expressed as cents per pound, decreased among individual stores with increasing quantities of meat handled. For example, for stores studied in Bridgeport, rent was equivalent to about 1.9 cents a pound for stores handling less than 1,000 pounds of meat a month. This compares with 0.9 cent a pound for stores handling

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[5] UNITED STATES PRODUCTION AND MARKETING ADMINISTRATION, RESEARCH BRANCH, RETAILING PREPACKAGED MEATS. December 1949. Table 8, p. 13.

1,000 to 4,000 pounds a month, and less than 0.5 cent a pound for stores handling more than 4,000 pounds.

For stores handling less than 1,000 pounds a month, the average amount of floor space employed in retailing meats was approximately 270 square feet. About the same amount of floor space was utilized in retailing meats by stores handling between 1,000 and 4,000 pounds a month. In stores handling more than 4,000 pounds, the amount of floor space increased to an average of about 500 square feet. In terms of output, stores classified as handling less than 1,000 pounds handled only about 3 pounds per square foot of floor space. This compares with about 11 pounds for stores that handled between 1,000 and 4,000 pounds, and about 22 pounds for stores handling more than 4,000 pounds.

In combination grocery and meat stores, the proportion of total floor space allocated to retail meat departments averaged around 28 percent. Variations among individual stores were considerable, however, in each of the cities studied. They ranged from as low as 6 percent of the total floor space of the store to 70 percent. Rental rates per square foot of floor space tend to increase with increases in quantities handled.

SERVICES PERFORMED

Although differences in quantities handled explain a great deal of the total variation in operating costs among the individual stores studied, there remains the problem of explaining variations in operating costs among stores handling comparable quantities.

The effects of services performed on operating cost cannot be determined simply by comparing stores that offer a particular service with stores that do not offer that service. This cannot be done because of the problem of substitution among various services and selling costs. Consider the case of stores of a given volume offering credit and delivery services in relation to those stores that do not offer these particular services. At relatively low quantities of meat handled, it may be that stores offering credit and delivery services operate at a lower average operating cost per pound of meat sold than stores that do not offer these particular services. Stores of similar volumes not offering credit and delivery services may have made outlays for advertising or parking facilities, or other selling expenses in order to have attained that particular volume.

Increasing the number of services performed by retailers increases the total operating cost. However, even if total operating costs are increased by offering additional services, an increase in sales volume of meats handled that results from such services may actually reduce operating cost per unit of meat handled for the individual retailer. The fact that retail stores operate at less than optimum capacity gives retailers an incentive to offer various services or to increase their total selling costs by advertising.

Services that vary among individual stores are credit, delivery, self-service, parking facilities, and evening and Sunday shopping hours. As the stores in the study were selected by random sampling, only a very small number of 100-percent self-service markets were included. As a result, comparisons between self-service stores and service stores were not possible.

TABLE 11.—*Distribution of stores retailing fresh meats classified according to credit and delivery sales, 85 stores, Bridgeport, Harrisburg, and Topeka, 1950*

Item	Stores indicating credit sales as a percentage of total sales												
	0	1–10	11–20	21–30	31–40	41–50	51–60	61–70	71–80	81–90	91–100	Total	Percentage of total
Sales delivered as a percentage of total sales:	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*Pct.*
0	11	7	2	2	4	4	2	2				34	40.0
1–10		6	1	5	2	2		3				19	22.3
11–20		2	2	2			2			1		9	10.6
21–30			1	2	1	3			1			8	9.4
31–40				1		3					1	5	5.9
41–50	2					3		1				6	7.1
51–60		1										1	1.2
61–70							1					1	1.2
71–80												0	0
81–90		1		1								2	2.3
91–100												0	0
Total	13	17	6	13	7	15	5	6	1	1	1	85	100.0
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	
Percentage of total stores	15.3	20.0	7.1	15.3	8.2	17.5	5.9	7.1	1.2	1.2	1.2	100.0	

About 90 percent of the stores offered either credit or delivery, and in many instances both services were offered (table 11). About 38 percent of all stores offered delivery services but only about a fourth of these stores reported delivery sales amounting to more than 20 percent of their total retail sales of meat. About 85 percent of all stores studied offered credit and about 45 percent of these stores had credit sales exceeding more than 30 percent of their total retail meat sales.

An attempt was made to see whether the type of services rendered influences the shape or level of the curve showing the influence of volume on per unit costs (fig. 1). Apparently the factors discussed previously, such as substitution of services, are extremely important. On the basis of the data available the curve is as representative of stores offering no delivery as it is for stores delivering more than 50 percent of their sales. The same results were obtained when length of store hours, credit, and even the income areas in which the stores were located were studied. A more detailed study would be needed to learn the effects of services rendered on the cost of retailing meats.

HIGH-COST FIRMS IN A COMPETITIVE INDUSTRY

The retail industry is generally regarded as highly competitive. Therefore, the considerable variation noted in the cost of operation among individual stores seems at first glance to be inconsistent. Actually, however, a number of factors allow such variations in operating costs to occur even under relatively competitive conditions.

Factors believed to be most important in explaining the presence of relatively high-cost firms are (1) relationships among departments and the proprietor's interest in the entire store rather than individual departments; (2) relationships between operating costs and net returns; and (3) retailers' emphasis on "out-of-pocket" costs rather than "economic" costs.

(1) Combination grocery and meat markets are the dominant type of retail meat outlet from both the standpoint of numbers of stores in operation and retail sales of meat. In operating stores of more than one department some flexibilities in retailing operations are afforded to the individual retailer. If the relatively high operating costs shown previously were for stores that sold predominantly meat, the effects of competition would undoubtedly tend to force some of these firms out of operation. However, as retailing meat usually accounts for only 30 percent of the total retail sales of stores, it is quite possible for stores (either by design or unknowingly) to incur losses in retailing meats and yet to obtain net profits from the entire store operation.

Although meat departments only were studied, grocery and produce departments may have subsidized the meat departments. This could have resulted from the inability of retailers to control their gross retailing meat margins as compared with the greater ease of controlling grocery and produce margins. For example, one retailer reported that he didn't really know what gross margin he obtained for retailing meat, but he was certain that it was less than he was trying to achieve. For grocery and produce items, he priced for a gross margin of 20 percent on sales and he believed that he obtained about this amount. In the case of meats, he priced for a 30-percent margin on sales. However, as his total return on sales for the entire store operation was only 14 percent, he believed that he was actually getting a gross retailing meat margin of much less than 30 percent. This lack of knowledge results primarily because pricing retail cuts of meats is much more complex than pricing dry-grocery or produce items. In pricing meat, many different retail cuts are derived from a single wholesale cut bought at a uniform price per pound and retailed at widely different prices. Such factors as dehydration, cutting, and boning losses, spoilage, and salvage selling of retail cuts must be considered in establishing retail prices that will afford the gross margins desired.

Most retailers did not keep departmental records of purchases, sales, or costs. As a result, costs of operation and net returns for individual departments were less well known than gross margins. Records of this type generally covered the entire store and were kept primarily for income-tax purposes. Most of the retailers guided their managerial decisions primarily on the basis of trial and error. Their final decisions were based on net take-home returns and the fact that food retailing was a way of life as well as a business enterprise.

As most retailers had no departmental records on gross margins, costs, and net returns, it is possible that unknowingly one department was subsidized by the others. In addition, some retailers by design have chosen this method of operation as yielding the best net returns from the entire food-retailing operation.

Nearly all retailers reported meats as average or low-profit items in relation to grocery products and produce. In only a few instances were meats regarded by retailers as high-profit items.

Most retail operators interviewed expressed the belief that it was necessary to retail meats in conjunction with groceries and produce. They believed that it was possible to obtain a higher net income from total store operations if they handled meat, even if a loss was incurred by the meat sales, than would result if meats were not handled.

(2) A second point for consideration in explaining the presence of relatively high-cost firms in a relatively competitive industry is that relatively high operation costs do not necessarily mean low net returns. Although operating costs vary considerably among individual stores handling comparable quantities of meats, gross retailing margins may tend to vary correspondingly within reasonable limits. One reason for this lies in the fact that the retailing of meat is conducted under some degree of imperfect competition.

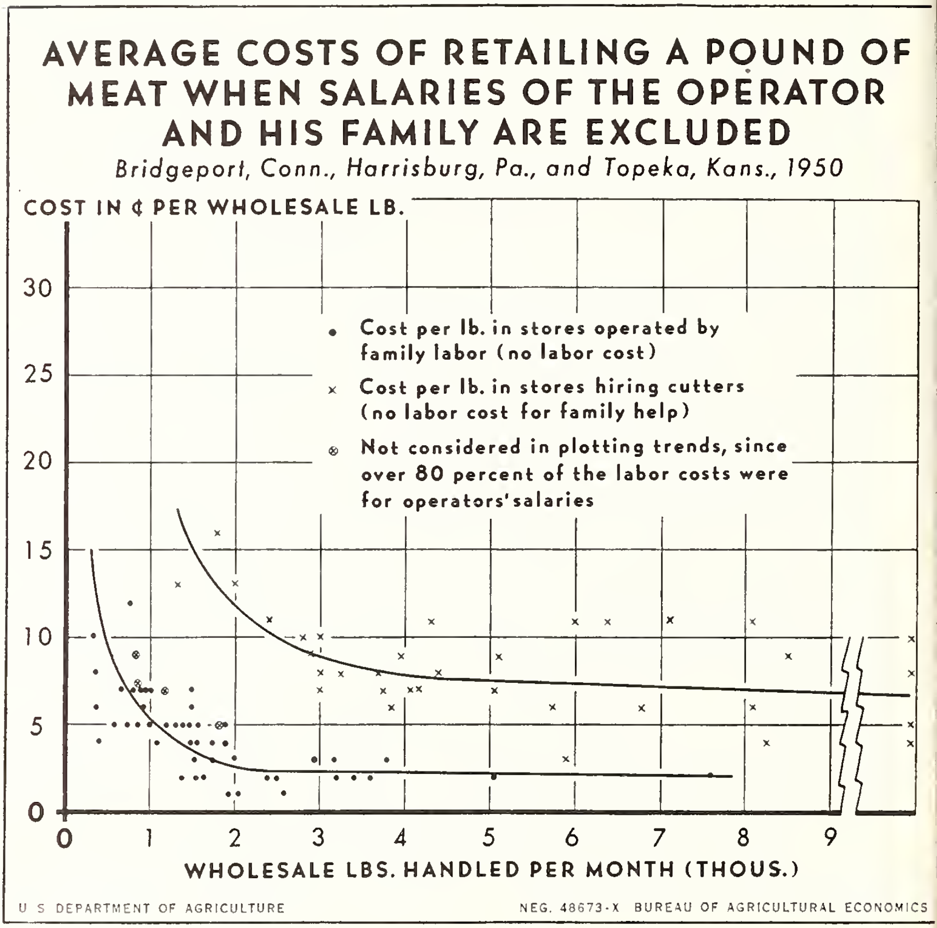
Some of the elements of this competition are that retail cuts of meats are not standardized products. They vary according to quality and cutting and trimming; differences in store locations; services performed; and good will or personal relationships between retailers and consumers. Because these conditions exist among individual stores, stores that have relatively higher operating costs may also obtain correspondingly high gross retailing margins.

The fact that individual retail operators do have a choice in selecting a retail pricing policy, among several possibilities, suggests something of the importance of these elements. For example, quality and service with little emphasis on retail prices is one extreme in pricing policies, as compared with stores that perform a minimum in service and emphasize relatively low retail prices.

(3) A factor that tends to permit high-cost meat departments to continue to operate is the fact that when operators do consider costs they tend to consider "out-of-pocket" rather than "economic" costs. This is a natural outgrowth of their interest in the entire operation rather than in the meat department alone and their concern with take-home returns rather than costs.

Economic costs as used here, include primarily the costs of the operators and unpaid family labor and rent, when the building is owned by the operator, in addition to strictly out-of-pocket costs. In terms of the way retailers normally think, most of them did not wish to place a value on this type of labor and rent. For example, one operator reported that he computed the returns for his own labor at less than 40 cents an hour.

FIGURE 3.



An indication of what happens when costs are computed from the standpoint of out-of-pocket costs can be noted from figure 3. In this figure, the labor of the operator and his family has been considered as a noncost item. As a result, these data tend to plot in the shape of two separate curves. These curves would tend to retain the same general slope and character even if family help were included at, for example, half of the going wage for comparable hired help. Two significant items can be noted by comparing the curve in figure 1 and the curves in figure 3. First, hired labor was not usually employed in operation of stores at less than 3,000 pounds a month. Second, as labor represents about 75 percent of their total costs of operation, owners who operate their own meat departments, from the out-of-pocket viewpoint, can reduce their operating expenses much below that of the remainder of the industry. This in turn tends to remove them from the most vulnerable position on the average cost curve for the industry. It tends also to shift competitive pressure to the 3,000 to 4,000 or even larger-volume stores, even though these larger stores tend to use their resources more efficiently. This type of flexibility is also possible in the larger stores but the degree tends to decrease as volumes handled increase and the type of operation changes from "mom and pop" stores, to an owner-operated store in which the operator works but also hires meat cutters, to one where all help is hired, and finally to a manager-operated store.

In retailing, particularly in relatively low-volume stores, social as well as economic implications need to be considered. Quite frequently, especially in relatively low-volume stores, the home residence of the retailer is located within the same building as the store. In such cases, family labor is easily brought into the store operation. No doubt some social benefits are attained, in terms of enjoyment, for members of a family working together. To the extent that family labor, which would not be used if wages had to be considered, is brought into the meat-retailing operation, the use of economic cost becomes less significant.

COSTS OF RETAILING MEAT AND IMPROVING MARKET EFFICIENCY [6]

Most retailers realize that a knowledge of the costs of retailing a pound of meat would help them to make better decisions on store operations. But records of cost and volume are not generally kept by departments because of the vast record keeping required.

In view of the large portion of the cost of retailing meat represented by labor and rent, retailers can make fairly accurate cost estimates without keeping records by departments. The two types of cost represent roughly three-fourths of the total operating costs, when all labor is considered a cost. Allocation of remaining costs incurred in retailing to the meat department on the basis of sales gives an approximation of total costs of operating it.

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[6] From a social point of view, efficiency is usually defined in terms of how well the resources employed are utilized. Under this definition all resources would have to be considered, including not only the resources used in the retailing field itself but also those used by consumers in shopping in one store as against another and those used in the earlier marketing process in supplying the various retail stores with the commodities. In this report, we are concerned primarily with the resources employed and the relative efficiency of their use in the field of meat retailing itself. This implies that as total efficiency in the field of retailing is improved, both consumer and producer will benefit.

Retailers cannot base their decisions solely on the costs of operating the meat department. These costs must be considered in connection with an indication of the quantity of meat handled. Like detailed records of costs, detailed records of sales at retail are desirable. But these records entail much work. For many purposes, a summary of the number of pounds bought at wholesale, from invoices, is adequate.

A knowledge of these costs, in terms of cents per pound of meat handled, should help retailers analyze their operations. It should help them decide whether their present meat departments, regardless of volume handled, are increasing, decreasing, or not affecting total returns from the entire retail operation. It will also help them to make decisions as to whether meat should be used as a convenience or a profit item and whether it would pay to convert to self-service. Possibly a retailer should seek to expand his volume toward optimum capacity or possibly he should not seek volume in his meat department but should merely operate it as a convenience to his customers. In this way he would seek to maximize his returns not in the meat department alone but in the entire retail operation. But some retailers may find that a meat department would result only in a lower net return from their retail outlet. A number of price systems advocated for use in pricing meat at retail presuppose a knowledge of the costs of operation. Thus departmental cost records will assist operators in their daily pricing of meat. An average cost by volume handled also provides cost data which will help prospective retail operators understand the retail operations they propose to set up or to buy.

The large variations in costs of retailing meat indicate that efficiency can be increased and cost of retailing reduced. As an example of the possible magnitude of such savings, a decrease of 2 cents in costs of handling a pound of meat in stores that handle less than 3,000 pounds a month would mean a saving of about 60 million dollars a year.

Differences in location and management and substitution of services make retailing complicated. Only detailed studies of operation will permit recommendations that would reduce costs. Industry surveys, such as this report, can only point out long-run methods of increasing efficiency. This study also shows the need for detailed analyses of meat-department operations and indicates the need to consider volume of operations in research of this type.

Efficiency in meat retailing will undoubtedly be improved as store operators become better informed concerning costs and volumes of meat departments and as they study the effects of changing the method of retailing meat on net returns from the entire retailing operation. Total efficiency will also be improved as costs of retailing meat by volume handled are considered by prospective store owners and operators before they actually buy.

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